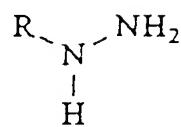


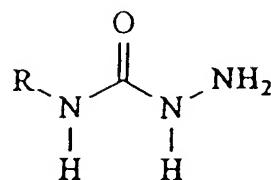


Replacement Sheet

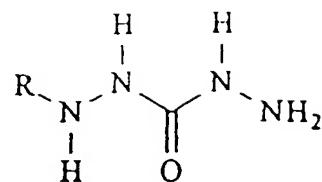
Sheet 1 of 9



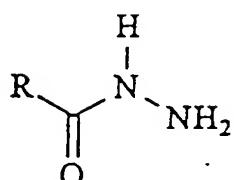
hydrazine



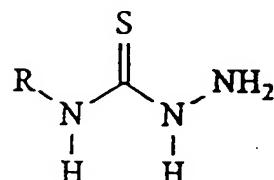
semicarbazide



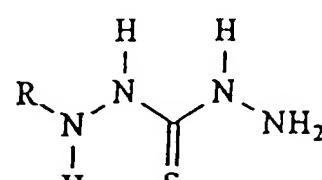
carbazide



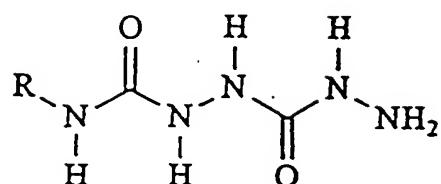
hydrazide



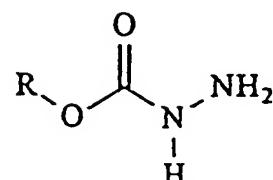
thiosemicarbazide



thiocarbazide



carbonic acid dihydrazine



hydrazine carboxylate

FIG. 1

Replacement Sheet
Sheet 2 of 9

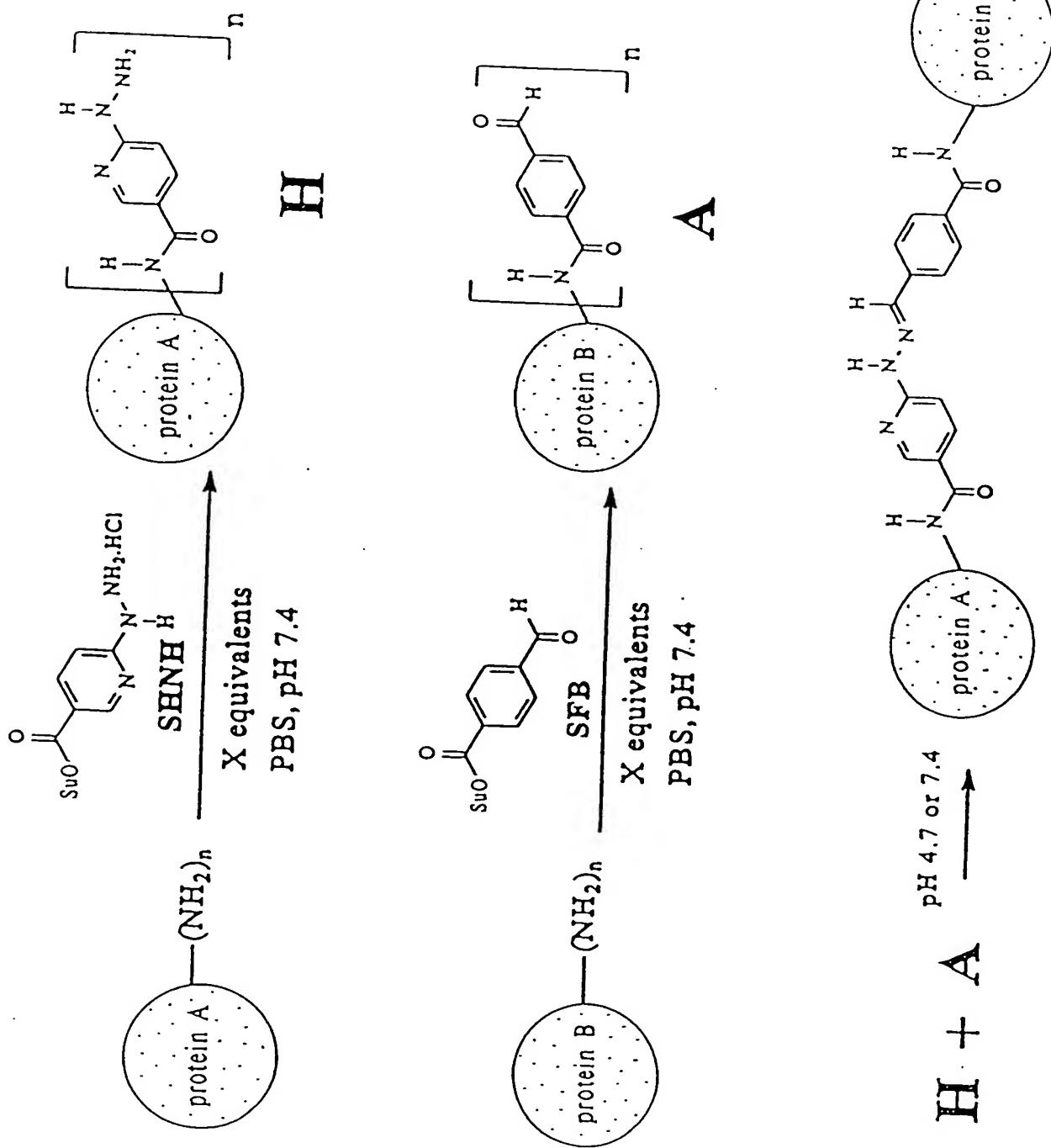


FIG. 2

Replacement Sheet
Sheet 3 of 9

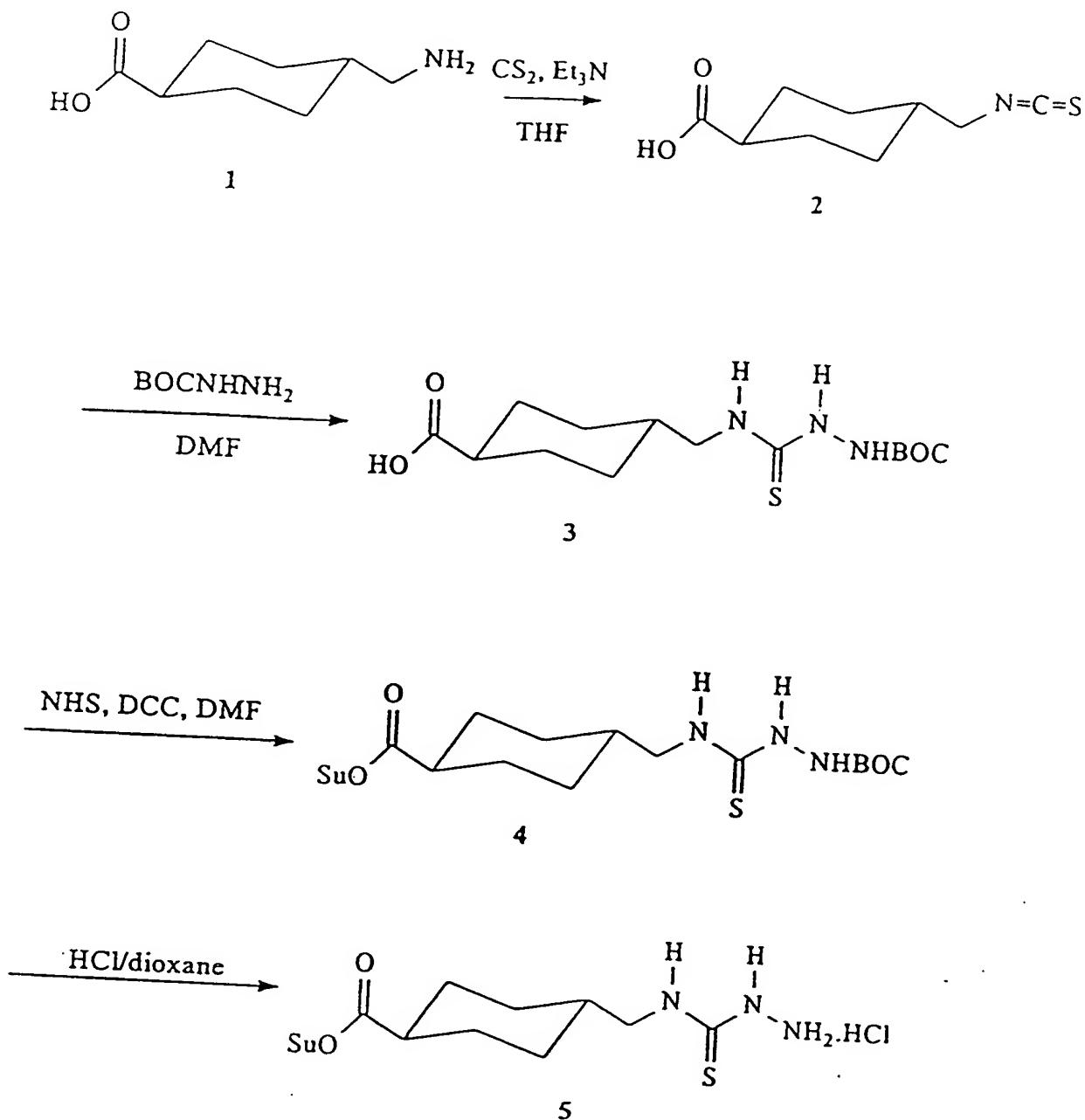


FIG. 3

Replacement Sheet
Sheet 4 of 9

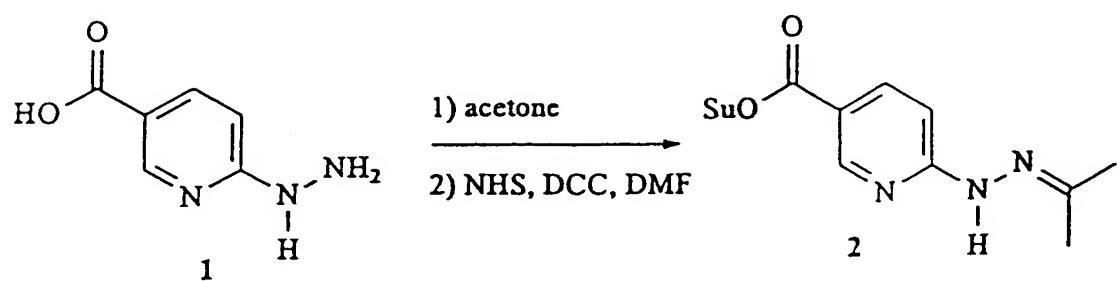
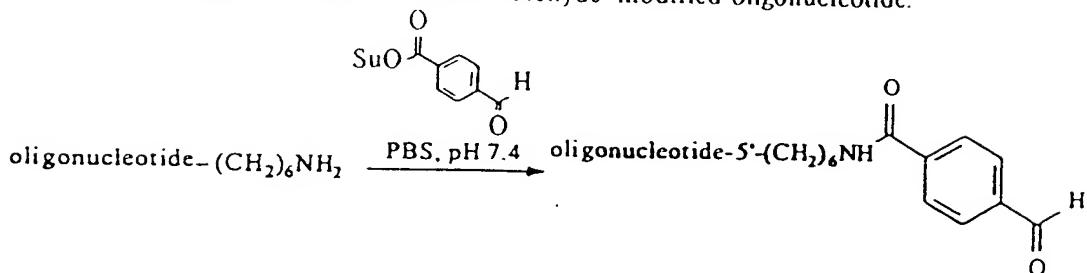


FIG. 4

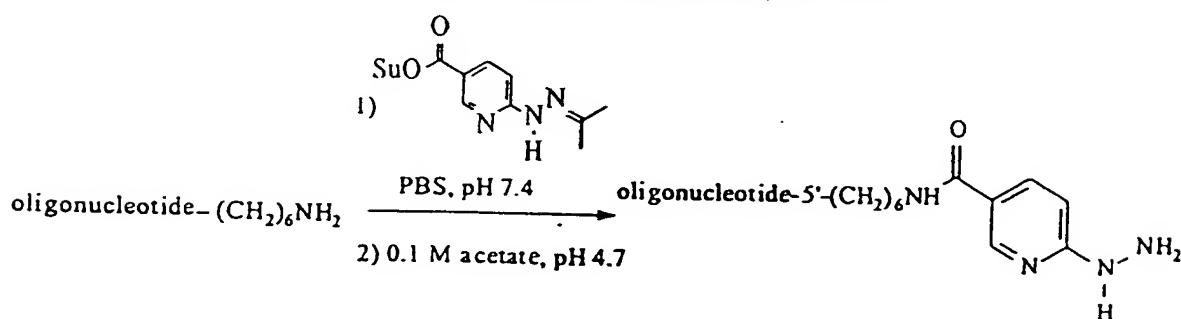
(Replacement Sheet)

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Preparation of 5'-aromatic aldehyde-modified oligonucleotide:



Preparation of 5'-heteroaromatic hydrazine-modified oligonucleotide:



Conjugation of hydrazino-modified oligonucleotide to aldehyde-modified oligonucleotide

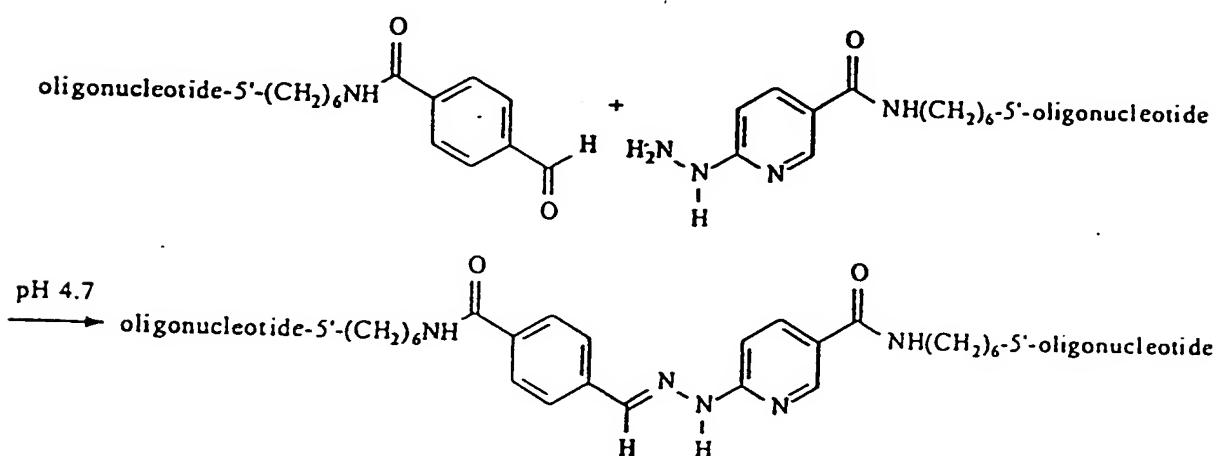


FIG. 5

Replacement Sheet

Sheet 6 of 9

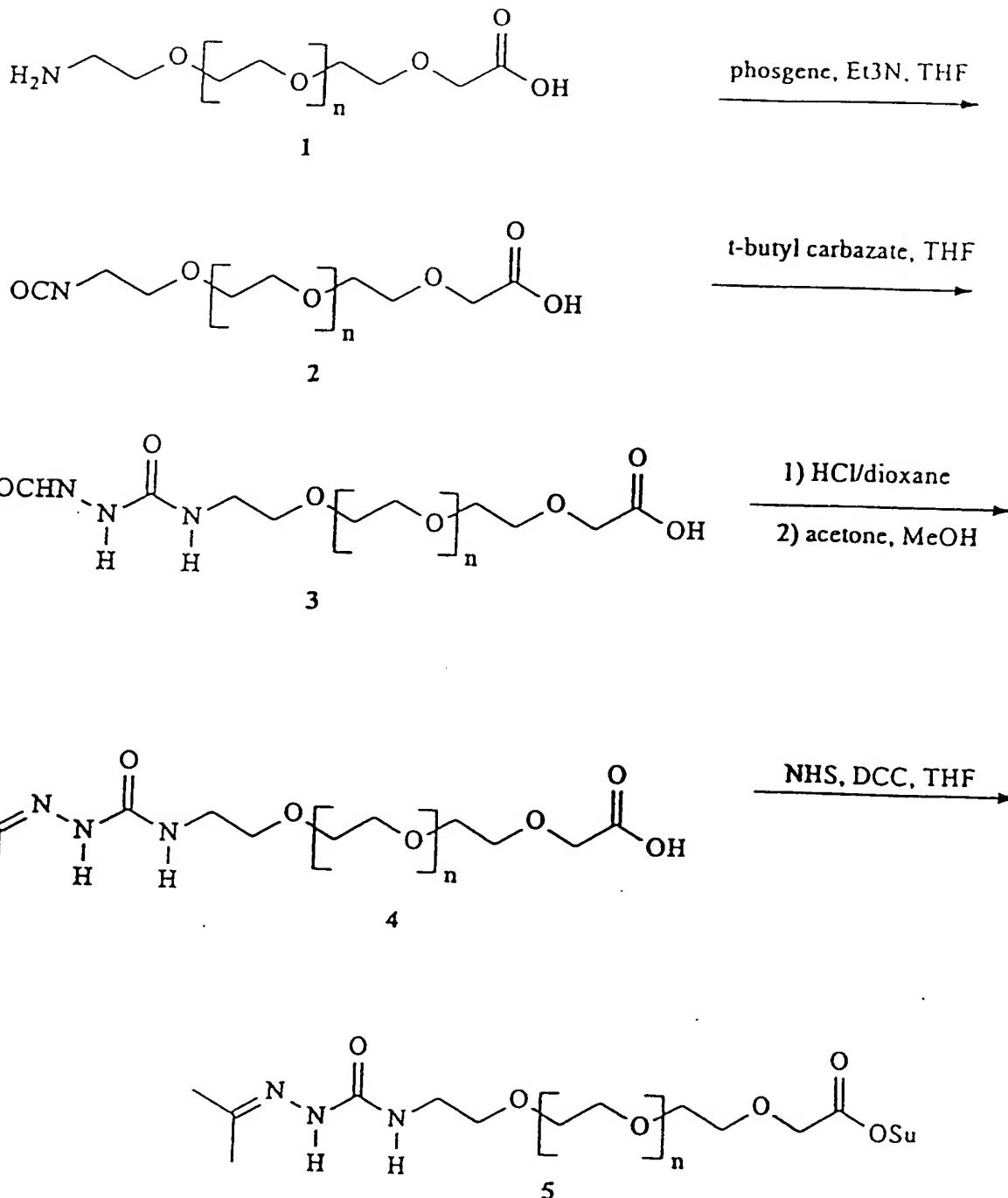


FIG. 6

Replacement Sheet

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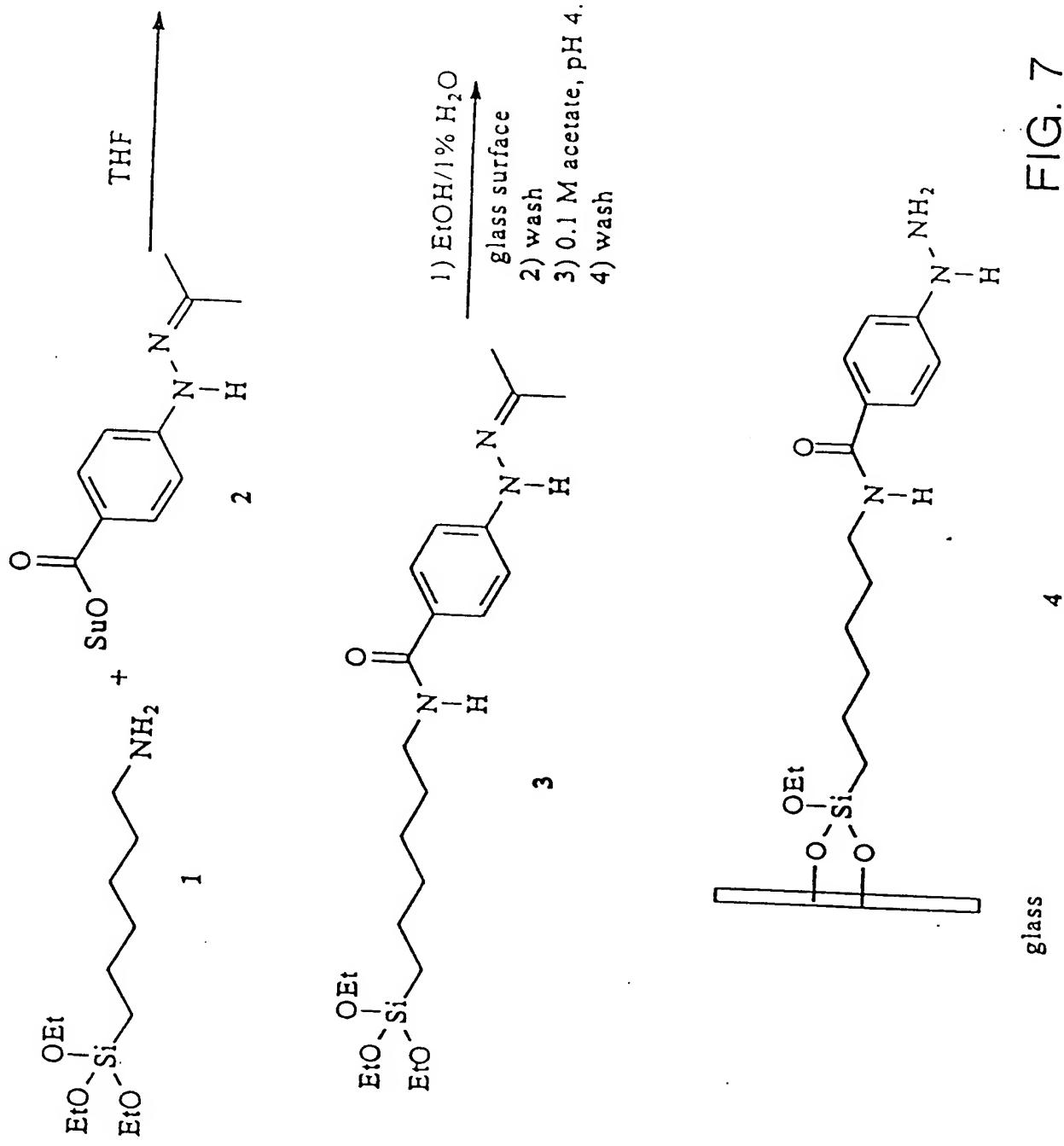
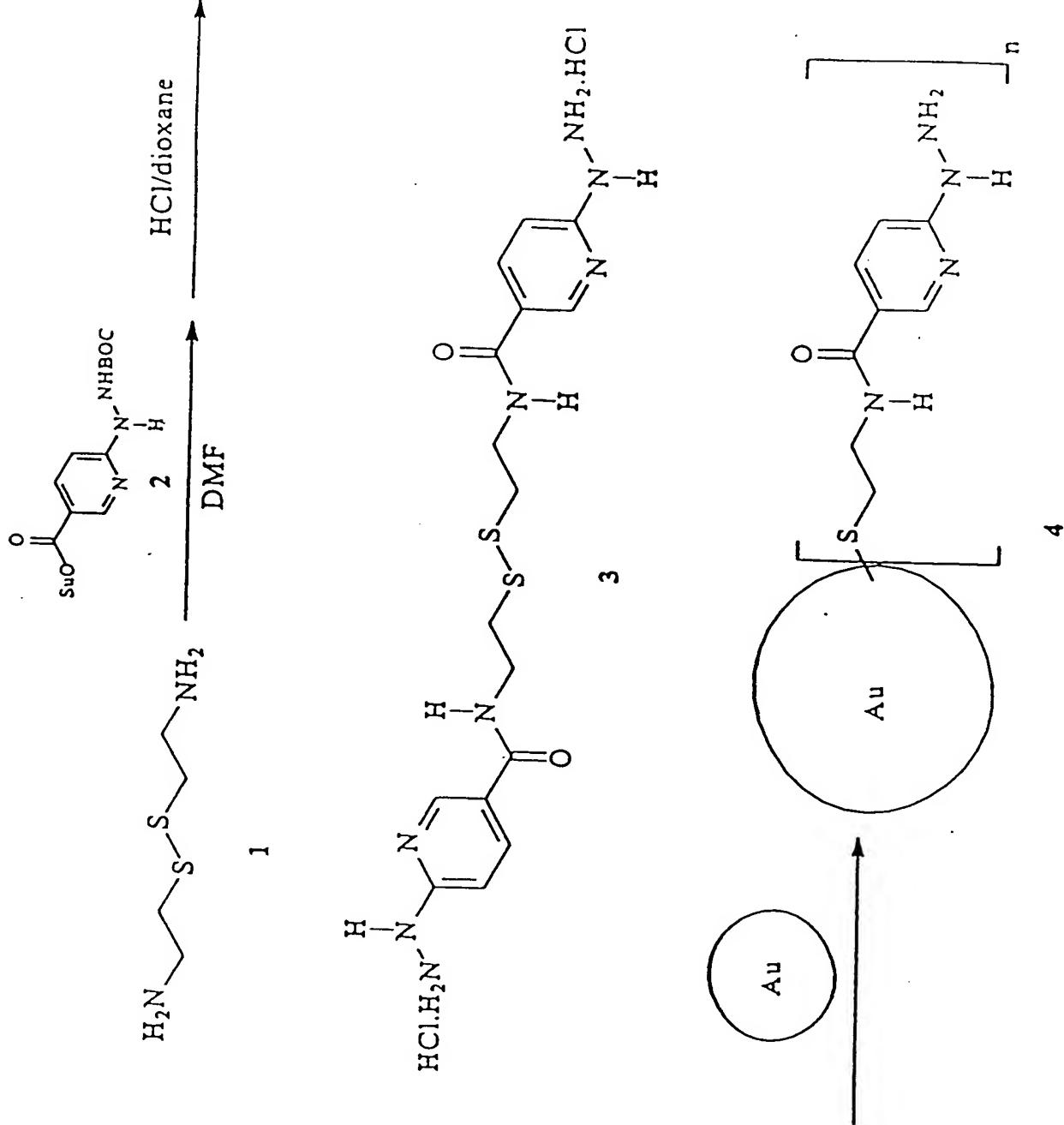


FIG. 7

Replacement Sheet

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FIG. 8



Replacement Sheet

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